

Claims

What is claimed is:

- 1 1. A method comprising:
 - 2 detecting an event associated with a device within a data processing system;
 - 3 initiating a platform-independent device removal sequence for said device in
 - 4 response to detecting said event associated with said device;
 - 5 virtually ejecting said device from said data processing system in response to
 - 6 initiating said platform-independent device removal sequence for said device; and
 - 7 servicing said event associated with said device in response to virtually
 - 8 ejecting said device from said data processing system.
- 1 2. The method of claim 1, wherein initiating a platform-independent device
- 2 removal sequence for said device in response to detecting said event associated with
- 3 said device comprises generating a system control interrupt.
- 1 3. The method of claim 2, wherein generating a system control interrupt
- 2 comprises generating a system control interrupt utilizing an INT_OUT command.
- 1 4. The method of claim 1, wherein said device comprises a processor including a
- 2 first processor core and a second processor core, said method further comprising
- 3 operating said first processor core and said second processor core in a functional
- 4 redundancy check mode.
- 1 5. The method of claim 4, wherein detecting an event associated with a device
- 2 within a data processing system comprises detecting an error within at least one of
- 3 said first processor core and said second processor core.
- 1 6. The method of claim 4, said method further comprising disabling interrupts to
- 2 said processor in response to initiating a platform-independent device removal
- 3 sequence for said device.

1 7. The method of claim 4, wherein operating said first processor core and said
2 second processor core in a functional redundancy check mode comprises concurrently
3 executing a thread on said first processor core and said second processor core, said
4 method further comprising:

5 saving a context of said thread in response to initiating a platform-independent
6 device removal sequence for said device.

1 8. The method of claim 5, said method further comprising disabling said
2 functional redundancy check mode in response to detecting said error within at least
3 one of said first processor core and said second processor core.

1 9. The method of claim 8, wherein servicing said event associated with said
2 device in response to virtually ejecting said device from said data processing system
3 comprises:

4 resetting said processor; and

5 re-enabling said functional redundancy check mode in response to resetting
6 said processor.

1 10. The method of claim 1, said method further comprising:

2 initiating a platform-independent device insertion sequence for said device in
3 response to servicing said event associated with said device; and

4 virtually inserting said device into said data processing system in response to
5 initiating said platform-independent device insertion sequence for said device.

1 11. A machine-accessible medium having machine-executable instructions
2 embodied therein which, when executed by a machine, causes said machine to
3 perform a method comprising:

4 detecting an event associated with a device within a data processing system;

5 initiating a platform-independent device removal sequence for said device in
6 response to detecting said event associated with said device;

7 virtually ejecting said device from said data processing system in response to
8 initiating said platform-independent device removal sequence for said device; and
9 servicing said event associated with said device in response to virtually
10 ejecting said device from said data processing system.

1 12. The machine-accessible medium of claim 11, wherein said device comprises a
2 processor including a first processor core and a second processor core, said method
3 further comprising operating said first processor core and said second processor core
4 in a functional redundancy check mode.

1 13. The machine-accessible medium of claim 12, wherein detecting an event
2 associated with a device within a data processing system comprises detecting an error
3 within at least one of said first processor core and said second processor core.

1 14. The machine-accessible medium of claim 12, said method further comprising
2 disabling interrupts to said processor in response to initiating a platform-independent
3 device removal sequence for said device.

1 15. The machine-accessible medium of claim 12, wherein operating said first
2 processor core and said second processor core in a functional redundancy check mode
3 comprises concurrently executing a thread on said first processor core and said second
4 processor core, said method further comprising:

5 saving a context of said thread in response to initiating a platform-independent
6 device removal sequence for said device.

1 16. The machine-accessible medium of claim 13, said method further comprising
2 disabling said functional redundancy check mode in response to detecting said error
3 within said at least one of said first processor core and said second processor core.

1 17. The machine-accessible medium of claim 16, wherein servicing said event
2 associated with said device in response to virtually ejecting said device from said data
3 processing system comprises:

4 resetting said processor; and
5 re-enabling said functional redundancy check mode in response to resetting
6 said processor.

1 18. A data processing system comprising:
2 a processor; and
3 a memory coupled to said processor, said memory including a firmware
4 interface to initiate a platform-independent device removal sequence for said
5 processor in response to a detection of an event associated with said processor, to
6 virtually eject said processor from said data processing system in response to an
7 initiation of a platform-independent device removal sequence for said processor, and
8 to service said event associated with said processor in response to a virtual ejection of
9 said processor from said data processing system.

1 19. The data processing system of claim 18, wherein said firmware interface to
2 initiate a platform-independent device removal sequence for said processor in
3 response to a detection of an event associated with said processor comprises a
4 firmware interface to generate a system control interrupt.

1 20. The data processing system of claim 19, wherein said firmware interface to
2 generate a system control interrupt comprise a firmware interface to generate a system
3 control interrupt utilizing an INT_OUT command.

1 21. The data processing system of claim 18, wherein said processor comprises a
2 first processor core and a second processor core, said data processing system further
3 comprising functional redundancy check logic to operate said first processor core and
4 said second processor core in a functional redundancy check mode.

1 22. The data processing system of claim 21, wherein said firmware interface to
2 initiate a platform-independent device removal sequence for said processor in
3 response to a detection of an event associated with said processor comprises a
4 firmware interface to initiate a platform-independent device removal sequence for

5 said processor in response to a detection of an error within at least one of said first
6 processor core and said second processor core.

1 23. The data processing system of claim 21, said memory further including an
2 operating system to disable interrupts to said processor in response to an initiation of a
3 platform-independent device removal sequence for said processor.

1 24. The data processing system of claim 21, wherein
2 said functional redundancy check logic to operate said first processor core and
3 said second processor core in a functional redundancy check mode comprises
4 functional redundancy check logic to concurrently execute a thread on said first
5 processor core and said second processor core; and
6 said memory further includes an operating system to save a context of said
7 thread in response to an initiation of a platform-independent device removal sequence
8 for said processor.

1 25. The data processing system of claim 21, wherein said firmware interface
2 further comprises a firmware interface to disable said functional redundancy check
3 mode in response to said detection of an event associated with said processor.

1 26. The data processing system of claim 25, wherein said firmware interface to
2 service said event associated with said processor in response to a virtual ejection of
3 said processor from said data processing system comprises a firmware interface to
4 reset said processor and to re-enable said functional redundancy check mode in
5 response to a reset of said processor.

1 27. The data processing system of claim 18, wherein said firmware interface
2 further comprises a firmware interface to initiate a platform-independent device
3 insertion sequence for said processor in response to a servicing of said event
4 associated with said processor and to virtually insert said processor into said data
5 processing system in response to an initiation of a platform-independent device
6 insertion sequence for said processor.

1 28. An apparatus comprising:
2 a first firmware interface to detect an event associated with a processor within
3 a data processing system;
4 a second firmware interface to initiate a platform-independent device removal
5 sequence for said processor in response to a detection of said event associated with
6 said processor;
7 a third firmware interface to virtually eject said processor from said data
8 processing system in response to an initiation of a platform-independent device
9 removal sequence for said processor; and
10 a fourth firmware interface to service said event associated with said processor
11 in response to a virtual ejection of said processor from said data processing system.

1 29. The apparatus of claim 28, wherein said second firmware interface to initiate a
2 platform-independent device removal sequence for said processor in response to a
3 detection of said event associated with said processor comprises a firmware interface
4 to generate a system control interrupt.

1 30. The apparatus of claim 28, said apparatus further comprising:
2 a fifth firmware interface to initiate a platform-independent device insertion
3 sequence for said processor in response to a servicing of said event associated with
4 said processor; and
5 a sixth firmware interface to virtually insert said processor into said data
6 processing system in response to an initiation of a platform-independent device
7 insertion sequence for said processor.